Mathematics Colloquium Fall Lineup

Colloquia are typically held Wednesdays 3:40—4:40 in Oren 114. Refreshments are always provided.

Sep.	19	Getting acquainted
Sep.	26	Kenneth Kaminsky, Augsburg College
Oct.	10	John Zobitz, Augsburg College
Oct.	24	James Hodges, University of Minnesota
Nov.→	7	Fred Hulting, General Mills[1]
Nov.	28	TBA
Dec.	5	TBA

[1]This week's speaker—Fred Hulting

Abstract

In this talk I give an account of my own experience as a Ph.D. statistician working in the automotive, materials, and consumer products industries. The first half of my talk will paint a broad picture of the many consulting projects and research problems I have encountered. The second half of the talk will provide more detail on two or three recent applications. A key theme of this talk is that statistics and mathematics is becoming much more critical to business success, and that collaboration across disciplines is necessary for any business project to be successful.
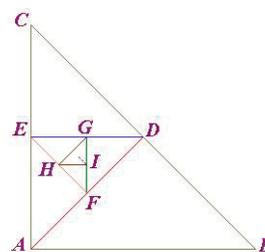
Biography

Fred Hulting is the Director of the Knowledge Discovery Services group within the Innovation, Technology & Quality division of General Mills. He holds a Ph.D. in Statistics from Iowa State University, is a Fellow of the American Statistical Association, and has 18 years of industry experience with General Motors, Alcoa, Pillsbury, and General Mills.

Problem of the week...

Maggie Flint of South High, **Michael Janas** and **Bill Young** solved the problem of v21.02. **Clint Cowles** solved the problem of v21.03. Here is the next POTW:

You decide to go for a walk in a garden in the shape of a right isosceles triangle, *ABC*; see the figure on the right. Starting at the vertex *A*, you walk to *D*, the midpoint of the *BC*; from *D* to *E*, the midpoint of *AC*; from *E* to *F*, the midpoint of *AD*; from *F* to *G*, the midpoint of *DE*; and so on... forever! At what point in the garden do you end up? (That is, if there exists one, what is the limiting point?)

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Puzzle of the week...

Maggie Flint solved the puzzle of v21.02. Here is another Puzzle of the week:

Examine the following multiplication:

$$\begin{array}{r} 159 \\ \times\,48 \\ \hline 7632 \end{array}$$

Each of the nine digits from 1 to 9 are used once. Can you find another simila multiplication, where each digit is used once?

Submit solutions to kaminsky@augsburg. edu, or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

Born on this day…

Born November 7, 1799, **Karl Heinrich Gräffe**'s father was Dietrich was a jeweler. His parents were of modest means, and could not provide much of an education for their son, so Gräffe trained with a jeweler in Hamburg from 1813 to 1816 thinking that he might become a goldsmith. But he was determined to find a way into education and much hard work enabled him to pass the entrance examinations of the Carolineum at Brunswick. He needed funding to be able to study at the College but his performance was so good that he was awarded a scholarship. He was now in a position to profit from a quality education, and now there was no way that he was going to be a goldsmith. He set his sights high.

In 1824 Gräffe went to Göttingen where he attended lectures by Gauss and Thibaut. While in Göttingen, Gräffe wrote a prize winning dissertation. He became a lecturer at the Technical Institute in Zurich in 1828, becoming professor at the Oberen Industrieschule in 1833. The University of Zurich was founded by J K Orelli in 1833 and Laurenz Oken became the first rector. Gräffe taught there as a privatdozent from 1833, becoming an extraordinary professor at the University of Zurich in 1860.

Gräffe is best remembered for his method of numerical solution of algebraic equations, developed to answer a prize question of the Berlin Academy of Science. It is particularly suitable for methods developed for using computers to solve mathematical problems. This method is today called the Dandelin-Gräffe method after the two mathematicians who independently investigated it. Lobachevsky is also credited with the independent discovery of the method which appears in his little-known book on algebra.

Karl Heinrich Gräff died on December 2, 1873 in Zurich, Switzerland.

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On this Day…November 7

In 1631
Pierre Gassendi observes the transit of Mercury across the sun, the first observation of a transit of a planet. This had been predicted by Kepler in 1629.

In 1940
"Galloping Gertie," suspension bridge over the Narrows of Puget Sound, Tacoma, Washington, breaks up from a torsional oscillation of steadily increasing amplitude caused by the wind known as the von Karman vortice street. The film is instructive for classes in Differential Equations.

Minnesota Dreamin'

NO ROAD CONSTRUCTION AHEAD

Cartoon Corner...

$$\begin{bmatrix} \cos 90° & \sin 90° \\ -\sin 90° & \cos 90° \end{bmatrix} \begin{bmatrix} a_1 \\ a_2 \end{bmatrix} = \underbrace{\boxed{a_2 \quad a_1}}$$

Norwegian Humor

Ole came back to work 15 minutes late. The boss noticed and asked where he had been.
Ole: "Getting a haircut."
Boss: "On company time?"
Ole: "It grew on company time."
Boss: "Not all of it."
Ole: "I didn't get it all cut off."